NAVAL
UNMANNED AERIAL VEHICLES

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UAV GUIDANCE

- CONGRESSIONAL INTEREST
- SECDEF MEMO 6 JUL 99
- CNO AND SECNAV PLANNING GUIDANCE
- JOINT REQUIREMENTS OVERSIGHT COUNCIL (JROC)
- JROC UAV SPECIAL STUDIES GROUP (SSG)
- NAVAL UAV EXECUTIVE STEERING GROUP (ESG)
- AUTONOMOUS OPERATIONS IPT
- OSD UAV MASTER PLAN

WHY UAVs?

- Kosovo lessons learned
- SECDEF 6 Jul 99 Memo- "…demonstrable progress in UAV arena…aggressively push the requirements and acquisition process..."
- Senator Warner- 1/3 Deep Strike unmanned by 2010
- SECNAV Navy Planning Guidance 10 Aug 99- "Pay special attention to unmanned vehicles, to include funding the establishment of a robust Unmanned Aerial vehicle (UAV) program…"

WHY TACTICAL UAVS?

- **Joint Requirements Oversight Council (JROC) 26 Oct 95 Memo- "The fielding of a Tactical UAV, including a marinized version, is the JROC's number one UAV priority."**
- **JROC 15 Dec 95 Memo- "Of specific concern is the urgent requirement to quickly field…"**
- **CINCUSACOM Mission Needs Statement 051600Z DEC 95- a tool for the "...Tactical Commander which focuses down to the lower tactical commanders instead of to higher headquarters."**

WHY VTUAV?

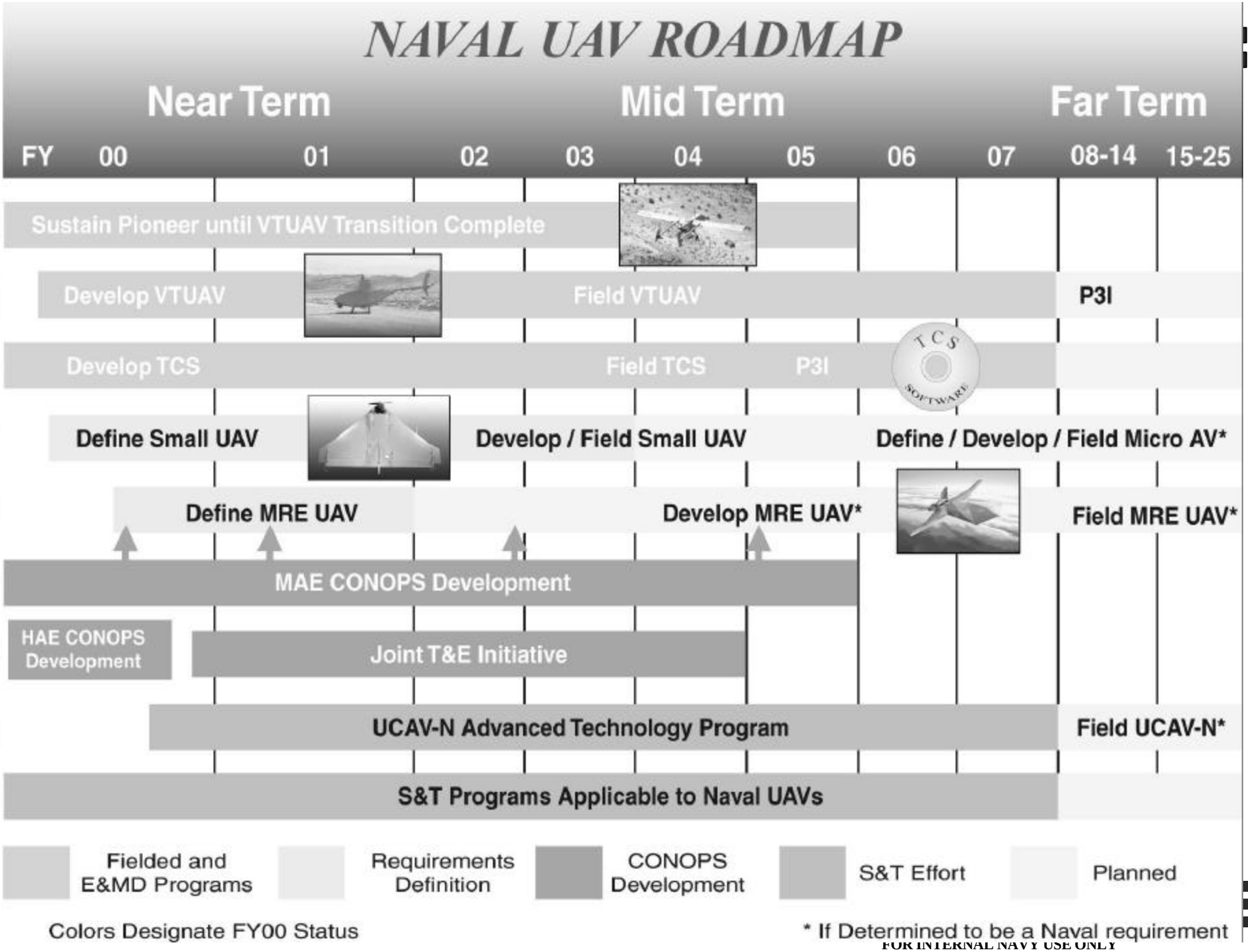
- **VCNO/ACMC 1 Feb 96 Memo- "…the marinized UAV is an essential element of our forward presence, either in the open ocean or in the littorals."**
- **JROC 3 Nov 98 Memo- "…allow the service to pursue separate air vehicle solutions to meet their requirements."**
- **N86 4 Jan 99 VTUAV Requirements letter-**

  " VTUAV will bring a quantum improvement in sensor capability for naval surface fires… will play a large role in brining network centric warfare to reality…a most valued asset to both the battle group and individual surface combatants."
- **Strategic Planning Guidance April 2000- "The capability to operate remote organic sensors (e.g., Vertical Takeoff and Landing UAV) from all air capable ships."**

NAVAL UAV GOALS

- **NAVAL TACTICAL UAV**
  - **SUSTAIN PIONEER AND NAVAL UAV INFRASTRUCTURE**
  - **EXECUTE VTOL TACTICAL UAV (VTUAV) ACQUISITION PLAN**
  - **INTEGRATE TACTICAL CONTROL SYSTEM (TCS) CAPABILITIES**
- **NAVAL MEDIUM ALTITUDE ENDURANCE (MAE) / MULTI-ROLE ENDURANCE (MRE) UAV CAPABILITY**
  - **DETERMINE REQUIREMENT FOR ORGANIC NAVAL MAE/MRE CAPABILITY**
- **HIGH ALTITUDE ENDURANCE (HAE) UAV CAPABILITY**
  - **BUILD CAPABILITY TO ACHIEVE DIRECT DATA RECEIPT VIA TCS**

NAVAL UAV ROADMAP



PIONEER

- NAVY: VC-6
  - TWO OPERATIONAL SYSTEMS
  - ENDED REGULAR SHIPBOARD DEPLOYMENTS IN FY 00
  - PROVIDE CONTINGENCY DEPLOYMENT CAPABILITY UNTIL REPLACED BY VTUAV
- USMC: VMU-1, VMU-2
  - TWO OPERATIONAL SYSTEMS
  - OPERATIONAL UNTIL REPLACED BY V TUAV
- TRAINING
  - ONE SYSTEM AT FT HUACHUCA, AZ

VTUAV RISK REDUCTION EFFORTS

- INTEGRATION WITH TCS
- INTEGRATION WITH TACTICAL COMMON DATA LINK (TCDL)

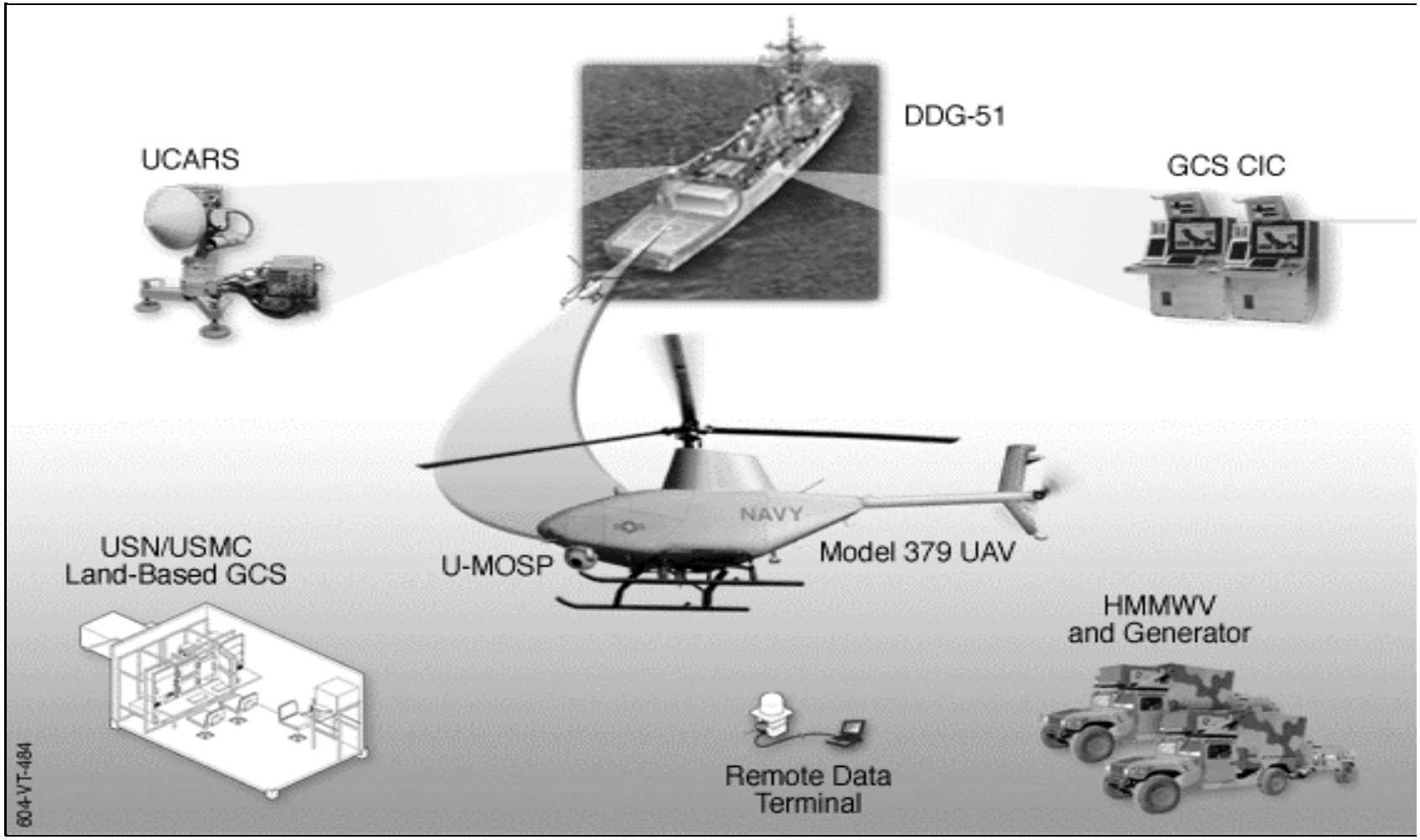
VTUAV REQUIREMENTS

- Operate from All Air Capable Ships
- 12 Hours Continuous On-Station Coverage
- Provide 3 Hours On-Station @110 NM Range
- Provide EO/IR, Laser Designator, Voice Relay
- Target Location Error <25m SEP
- Interoperability Through Tactical Control System

Support Naval Operational Concepts

- Forward....From The Sea
- Operational Maneuver From The Sea

VTUAV SYSTEM DESCRIPTION



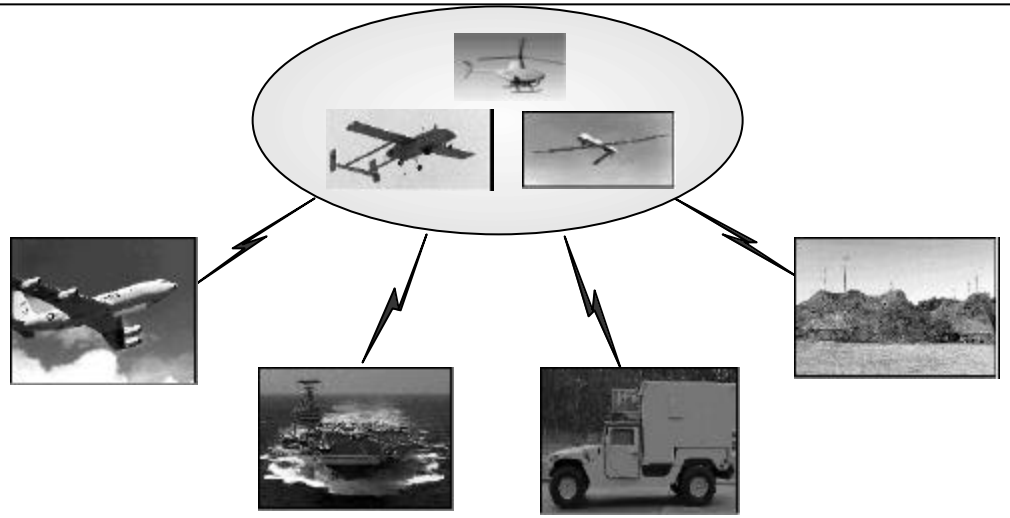
VTUAV OPERATIONAL CONCEPT

- **NAVY**
  - DEPLOY ABOARD CG/DDG/DD-21
  - GCS ON CV/CVN
  - NAVY IN SUPPORT OF "FORWARD... FROM THE SEA"
- **MARINE CORPS**
  - DEPLOY WITH ARG/MEU(SOC)
  - MARINES IN SUPPORT OF "OPERATIONAL MANEUVER FROM THE SEA" (OMFTS)
  - AFLOAT - VMUS OPERATE VTUAV FROM GROUND CONTROL STATION (GCS) INSTALLED ON LPD/ LHA/LHD
  - ASHORE - VMUS OPERATE VTUAV FROM MOBILE GCS (EMBARKED WITH MEU)

VTUAV CONOPS

- ADDRESSES VTUAV NAVAL OPERATIONS IN THE 21ST CENTURY
- EVALUATES THREE SCENARIOS RANGING FROM MOOTW TO MTW
  - DEMONSTRATES VTUAV INTEGRATION WITH SYSTEMS IN SERVICE IN THE SCENARIO TIMEFRAME SUCH AS LPD-17, DD-21, JSF, MV-22, AND PGMS
  - INCLUDES AMPHIBIOUS , CRUDES AND CARRIER NAVAL OPERATIONS

TACTICAL CONTROL SYSTEM



Go To
PMA-263 / TCS

TCS PROVIDES :

UAV COMMAND AND CONTROL INTEROPERABILITY
SENSOR AND PAYLOAD CONTROL
RAPID TARGET/ IMAGERY DISSEMINATION

BACK CONT'D

MULTI-ROLE ENDURANCE (MRE) UAV

- Explore the realm between Firescout (VTUAV) and Global Hawk (High Altitude Endurance (HAE) UAV)
- Products:
  - Draft MNS
  - Risk Assessment
  - Draft CONOPS
  - Draft ORD
  - AOA
- Four study contracts awarded
  - Boeing, General Dynamics, Lockheed Martin, Northrop Grumman
  - Design tradeoff - VTOL, STOVL, Fixed Wing

JOINT UAVs IN BATTLESPACE DOMINANCE OPERATIONS (JUAV-BDO)

- Focuses on time critical target prosecution
- Puts UAVs in the hands of warfighters
- Prepares for the introduction of VTUAV and TCS
- Enhances UAV integration and interoperability in the Joint arena

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